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Facsimile Cover Sheet

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To:	Examiner Jean B. Corrielus
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Date:	September 28, 2009

Re.: Application No.: 10/599,456
Our Ref.: SI08-P06628US
Title: *AM Receiving Circuit*
Filed 09/28/2006

Examiner Corrielus:

Thank you for calling on Friday, 9/25/09 to propose an Examiner's amendment to bring the above referenced application into condition for allowance.

Our client has agreed to amend the claims of the application as defined in the attached Listing of Claims. Claim 4 has been canceled and claims 10, 16, and 17 are amended. Please enter these claims by Examiner's amendment. Please contact me if this claim set is not consistent with our conversation on Friday.

Best regards

John E. Gunther
43,649

Proposed claims after Examiner's amendment:

1. (Previously presented) An AM receiving circuit comprising:

an intermediate frequency unit that converts a broadcast wave signal into an intermediate frequency signal and amplifies the intermediate frequency signal;

an AGC (Automatic Gain Control) circuit that generates a signal-meter signal to set a gain of the intermediate frequency unit depending on electric field intensity of the broadcast wave signal;

an AM detecting unit that detects the intermediate frequency signal output from the intermediate frequency unit to produce an audio signal;

an intermediate frequency signal intensity detecting unit that generates an intermediate frequency signal carrier intensity signal indicating an intensity of a carrier frequency component of the intermediate frequency signal output from the intermediate frequency unit; and,

a sound quality compensating unit including:

a filter unit that extracts a predetermined frequency band of the audio signal;

an amplifying unit that boosts or attenuates the audio signal in the predetermined frequency band extracted from the filter unit; and

a controlling unit that controls filter characteristics of the filter unit and sets a boosting function or an attenuating function of the amplifying unit, depending on the signal-meter signal and the intermediate frequency signal carrier intensity signal.

2. (Previously Presented) The AM receiving circuit of claim 1, wherein the filter unit consists of a low-pass filter that attenuates a high frequency band component of the audio signal and a high-pass filter that attenuates a low frequency band component of the audio signal.

3. (Previously presented) The AM receiving circuit of claim 2, wherein

the low-pass filter has filter characteristics that attenuate a higher frequency band component of the audio signal with weakening the electric field intensity in a first predetermined electric field intensity range of the broadcast wave signal, and wherein

the high-pass filter has filter characteristics that attenuate a lower frequency band component of the audio signal output from the low-pass filter with weakening the electric field intensity in a second predetermined electric field intensity range of the broadcast wave signal.

4. (Canceled)

5. (Currently Amended) The AM receiving circuit of claim 1, the intermediate frequency signal intensity detecting unit comprising:

an intermediate frequency filter that extracts a carrier frequency component of the intermediate frequency signal output from the intermediate frequency unit; and

an integrator that integrates output of the intermediate frequency filter to generate the intermediate frequency signal carrier intensity signal, wherein

the controlling unit controls the filter characteristics of the filter unit and sets the boosting function or the attenuating function of the amplifying unit, depending on the ~~integration output~~

~~of the integrator~~ intermediate frequency signal carrier intensity signal, if the electric field intensity of the broadcast wave signal is lower than a predetermined value, and

the controlling unit controls the filter characteristics of the filter unit and sets the boosting function or the attenuating function of the amplifying unit, depending on the signal-meter signal output from the AGC circuit, if the electric field intensity of the broadcast wave signal is higher than the predetermined value.

6. (Previously presented) A method of receiving an amplitude modulated broadcast wave signal having an electric field intensity, comprising:

converting the broadcast wave signal to an intermediate frequency signal;

generating a signal-meter signal depending on electric field intensity of the broadcast wave signal;

amplifying the intermediate frequency signal depending on the signal-meter signal;

generating an intermediate frequency signal carrier intensity signal indicating intensity of carrier frequency component of the intermediate frequency signal;

detecting the amplified intermediate frequency signal to obtain an audio signal;

filtering the audio signal to extract a predetermined frequency band of the audio signal, the filtering done by means of a filter having filter characteristics;

amplifying or attenuating the filtered audio signal; and

controlling the filter characteristics and the amplification or attenuation of the audio signal in response to the signal-meter signal and the intermediate frequency signal carrier intensity signal.

7. (Previously Presented) The method of receiving an amplitude modulated broadcast wave signal of claim 6, wherein filtering the audio signal further comprises:

attenuating high frequency components of the audio signal by means of a low pass filter; and

attenuating low frequency components of the audio signal by means of a high pass filter.

8. (Previously presented) The method of receiving an amplitude modulated broadcast wave signal of claim 7, further comprising:

controlling at least one of the attenuation factor of the low pass filter, the attenuation factor of the high pass filter, and the amplification or attenuation of the filtered audio signal in response to the signal-meter signal and the intermediate frequency signal carrier intensity signal.

9. (Previously Presented) The method of receiving an amplitude modulated broadcast wave signal of claim 8, wherein at least one of the attenuation factor of the high pass filter and the attenuation factor of the low pass filter are increased as the electric field intensity of the broadcast wave signal decreases.

10. (Currently Amended) The method of receiving an amplitude modulated broadcast wave signal of claim 7, wherein

generating an intermediate frequency signal carrier intensity signal further comprising comprises:

filtering the amplified intermediate frequency signal to extract a carrier frequency component of the intermediate frequency signal; and

integrating the extracted carrier frequency component to produce ~~an IF~~ the intermediate frequency carrier intensity signal; and

controlling the filter characteristics and the amplification or attenuation of the audio signal further comprises:

controlling at least one of the attenuation factor of the low pass filter, the attenuation factor of the high pass filter, and the amplification or attenuation of the filtered audio signal in response to the signal-meter signal if the electric field intensity of the broadcast wave signal is higher than a predetermined value; and

controlling at least one of the attenuation factor of the low pass filter, the attenuation factor of the high pass filter, and the amplification or attenuation of the filtered audio signal in response to the ~~IF~~ intermediate frequency signal carrier intensity signal if the electric field intensity of the broadcast wave signal is not higher than the predetermined value.

11. (Previously presented) A sound quality compensating unit for use in an AM radio receiver providing an audio signal, a signal-meter signal corresponding to the electric field strength of a received broadcast wave signal and an intermediate frequency signal carrier intensity signal corresponding to intensity of carrier frequency component of intermediate frequency signal generated from the received broadcast wave signal, the sound quality unit comprising:

a filter unit that extracts a predetermined frequency band of the audio signal;

an amplifying unit that boosts or attenuates the audio signal in the predetermined frequency band extracted from the filter unit; and

a controlling unit that controls filter characteristics of the filter unit and sets a boosting function or an attenuating function of the amplifying unit, in response to the signal-meter signal and the intermediate frequency signal carrier intensity signal.

12. (Previously presented) The sound quality compensating unit of claim 11, wherein the filter unit consists of a low-pass filter that attenuates a high frequency band component of the audio signal and a high-pass filter that attenuates a low frequency band component of the audio signal output from the low-pass filter.

13. (Previously presented) The sound quality compensating unit of claim 12, wherein

the low-pass filter has filter characteristics that attenuate a higher frequency band component of the audio signal with weakening the electric field intensity in a first predetermined electric field intensity range of the broadcast wave signal, and wherein

the high-pass filter has filter characteristics that attenuate a lower frequency band component of the audio signal output from the low-pass filter with weakening the electric field intensity in a second predetermined electric field intensity range of the broadcast wave signal.

14. (Previously presented) The AM receiving circuit of claim 1, wherein

the intermediate frequency signal intensity detecting unit includes:

an intermediate frequency filter that extracts the carrier frequency component of the intermediate frequency signal output from the intermediate frequency unit to generate an output signal; and

an integrator that integrates the output signal of the intermediate frequency filter to generate the intermediate frequency signal carrier intensity signal.

15. (Previously presented) The AM receiving circuit of claim 1, wherein

the controlling unit controls the filter characteristics of the filter unit and sets the boosting function or the attenuating function of the amplifying unit, depending on a signal obtained by adding the signal-meter signal and the intermediate frequency signal carrier intensity signal.

16. (Currently amended) The AM receiving circuit of claim 1, wherein

the controlling unit controls the filter characteristics of the filter unit and sets the boosting function or the attenuating function of the amplifying unit,

depending on the signal-meter signal when the signal-meter signal is larger than a predetermined level, ~~or~~ and

depending on the intermediate frequency signal carrier intensity signal when the signal-meter signal is smaller than the predetermined level.

17. (Currently amended) The AM receiving circuit of claim 1, wherein

the controlling unit controls the filter characteristics of the filter unit and sets the boosting function or the attenuating function of the amplifying unit,

depending on the signal-meter signal when the intermediate frequency signal carrier intensity signal is larger than a predetermined level, ~~or~~ and

depending on the intermediate frequency signal carrier intensity signal when the intermediate frequency signal carrier intensity signal is smaller than the predetermined level.